

WHAT IS CLAIMED IS:

1. An electric split nut opening/closing device in a mold clamping apparatus in which a fixed platen for holding a fixed mold and a movable platen for holding a movable mold are provided, and a tip-end threaded portion of a tie bar, one end of which is fixed to either one of said platens and the other end of which is projected by penetrating the other platen, is engaged with a split nut provided on the other platen to connect said fixed platen to said movable platen, by which a mold clamping force is generated between said platens by giving tension to said tie bar, wherein a pair of left half piece and right half piece of said split nut are slidably supported so as to hold said tie bar therebetween, and said left half piece and right half piece of said two sets of split nuts are brought into contact with and separated from each other at the same time by common driving means so as to hold the tie bar.

2. The electric split nut opening/closing device in a mold clamping apparatus according to claim 1, wherein one of the half pieces constituting said split nut is driven by a reciprocating device driven by a motor; the movement of said one half piece is transmitted to the other half piece via a link mechanism; and the other half piece is brought into contact with and separated from said one half piece in connection with said one half piece.

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3. The electric split nut opening/closing device in a
mold clamping apparatus according to claim 1 or 2, wherein a
guide box is provided in positions of two tie bars on the
other platen; said guide box slidably support said paired
5 left half piece and right half piece of the left and right
split nuts so as to hold said tie bar; said guide box is
provided with a link plate rotatably supported via a support
pin; a pin engaging with an elongated hole formed at both
ends of said link plate is provided on each of said left
10 half piece and right half piece; and said left half piece
and right half piece are link connected in a restrained
manner so as to move symmetrically with respect to said
support pin.

4. The electric split nut opening/closing device in a
15 mold clamping apparatus according to any one of claims 1 to
3, wherein two connecting rods penetrate said two sets of
left half piece and right half piece; one end of said
connecting rod is fixed to one half piece, and the other
half piece is slidably supported; a geared motor with brake
20 is mounted on a plate fixed to said connecting rod; and the
left half piece and right half piece of said one split nut
are brought closer to and separated from each other via a
reciprocating mechanism provided on an output shaft of said
geared motor with brake.

25 5. The electric split nut opening/closing device in a

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1 mold clamping apparatus according to claim 4, wherein the
2 left half piece and right half piece of said one split nut
3 are brought closer to and separated from each other by a
4 reciprocating device consisting of a ball shaft connected to
5 the output shaft of said geared motor via a coupling and a
6 ball nut which engages with said ball shaft and is connected
7 to the right half piece of said one split nut.

8 6. The electric split nut opening/closing device in a
9 mold clamping apparatus according to any one of claims 3 to
10 5, wherein said guide box is made up of attachment portions
11 attached to a side portion and a front portion of said
12 platen, two bottom plates for supporting the half pieces of
13 said split nut, and a groove portion provided between said
14 bottom plates.

15 7. The electric split nut opening/closing device in a
16 mold clamping apparatus according to claim 4, wherein a
17 rotating crank mechanism is used in place of said
18 reciprocating device.

19 8. The electric split nut opening/closing device in a
20 mold clamping apparatus according to claim 7, wherein the
21 left half piece and right half piece of said one split nut
22 are brought closer to and separated from each other by a
23 driving device comprising a geared motor with brake whose
24 output shaft is installed to a bracket fixed to said
25 connecting rod so as to be perpendicular to said connecting

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rod; a crank arm which is fixed to the output shaft of said geared motor with brake and has a pin at the tip end; a joint member which is installed to the right half piece of one split nut via an adapter member and is given an initial compressive force by spring means; and a connecting link one end of which is rotatably connected to the tip-end pin of said crank arm and the other end of which is rotatably connected to said joint member via a pin.

9. The electric split nut opening/closing device in a
10 mold clamping apparatus according to claim 8, wherein the tip-end pin of said crank arm is supported at both ends, and said connecting link has a curved shape so as to avoid the interference with said crank arm.